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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,231	04/04/2005	Young-Nam Yun	21C-0190	1269
23413	7590	08/15/2007		
CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			EXAMINER DUONG, THOI V	
			ART UNIT 2871	PAPER NUMBER
			MAIL DATE 08/15/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/530,231	Applicant(s) YUN, YOUNG-NAM	
	Examiner Thoi V. Duong	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 ~~is~~/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 ~~is~~/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/13/07</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. This office action is in response to the Amendment filed June 11, 2007.

Accordingly, claims 1-5 and 9 were amended. Currently, claims 1-10 are pending in this application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al. (Maeda, US 6,285,422 B1) in view of Epstein et al. (Epstein, US 6,801,276 B1).

Re claim 1, as shown in Figs. 1 and 2 (Fig. 2 is annotated), Maeda discloses a liquid crystal display device 100 comprising:

a light generating section 17 to generate first light L1;

a polarizing member 15/16 which includes a polarizing layer 16 and a light diffusing layer 15, wherein the polarizing member is disposed on the light generating section so as to generate third light L3 by polarizing and diffusing first light L1; and

a liquid crystal display panel 10 disposed on the polarizing member to display an image by using third light L3 and including a first substrate 12, a second substrate 11

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opposite to the first substrate and liquid crystal 13 interposed between the first and second substrates.

Re claim 4, as shown in Figs. 22 and 23 (Fig. 23 is annotated), Maeda discloses a liquid crystal display device 2200 comprising:

- a light generating section 17 to generate first light L1;

- a semi-transmissive film 220 disposed on the light generating section 17 in order to allow first light L1 to pass therethrough and to partially reflect second light L2 directed in opposition to first light L1;

- a polarizing member 15/16 which includes a polarizing layer 16 and a light diffusing layer 15, wherein the polarizing member is disposed on the semi-transmissive film 220 so as to generate fifth light L5 by polarizing and diffusing first light L1 and to generate sixth light L6 by polarizing and diffusing second light L2; and

- a liquid crystal display panel 10 disposed on the polarizing member to display an image by selectively receiving fifth light L5 or sixth light L6 and including a first substrate 12, a second substrate 11 opposite to the first substrate and liquid crystal 13 interposed between the first and second substrates.

However, Maeda does not disclose that the polarizing layer and the light diffusing layer are integrally formed as recited in claims 1 and 4.

As shown in Fig. 2, Epstein discloses a polarizing member 2 (optical element) including a polarizing layer 12 and a light diffusing layer 28 integrally formed with the polarizer 12 (col. 4, lines 33-64).

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Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the liquid crystal display device of Maeda with the teaching of Epstein by employing a polarizing member including a polarizing layer and a light-diffusing layer integrally formed with the polarizer in order to realize excellent forward scattering properties and exhibit low backscatter (col. 1, lines 9-14).

Re claim 3, Maeda discloses that the polarizing layer 16 is positioned in opposition to the light generating section so as to generate second light L2 by polarizing first light L1; and the light-diffusing layer 15 (light scattering member) is disposed on the polarizing layer 16 so as to generate third light L3 by diffusing second light L2.

Re claim 9, Maeda discloses that the polarizing layer 16 is positioned in opposition to the semi-transmissive film 220 so as to generate third light L3 by polarizing first light L1 and to generate fourth light L4 by polarizing second light L2; and the light-diffusing layer 15 is disposed on the polarizing layer in opposition to the first substrate 12 so as to generate fifth light L5 by diffusing third light L3 and to generate sixth light L6 by diffusing fourth light L4.

4. Claims 1-6, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iijima (US 6,906,767 B1) in view of Epstein et al. (Epstein, US 6,801,276 B1).

Re claim 1, as shown in Fig. 5 (annotated) (see also Figs. 2 and 3 for light distribution), Iijima discloses a liquid crystal display device comprising:

a light generating section 70 (light source) to generate first light L1;

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a polarizing member 30/15 which includes a polarizing layer 15 and a light diffusing layer 30, wherein the polarizing member is disposed on the light generating section so as to generate third light L3 by polarizing and diffusing first light L1; and

a liquid crystal display panel 20 disposed on the polarizing member to display an image by using third light L3 and including a first substrate 22, a second substrate 21 opposite to the first substrate and liquid crystal 26 interposed between the first and second substrates.

Re claim 4, as shown in Fig. 7 (annotated) (see also Figs. 2 and 3 for light distribution), Iijima discloses a liquid crystal display device comprising:

a light generating section 70 to generate first light L1;

a semi-transmissive film 40 (reflective polarizing plate) disposed on the light generating section 70 in order to allow first light L1 to pass therethrough and to partially reflect second light L2 directed in opposition to first light;

a polarizing member 15/30 which includes a polarizing layer 16 and a light diffusing layer 15, wherein the polarizing member is disposed on the semi-transmissive film 40 so as to generate fifth light L5 by polarizing and diffusing first light L1 and to generate sixth light L6 by polarizing and diffusing second light L2; and

a liquid crystal display panel 20 disposed on the polarizing member to display an image by selectively receiving fifth light L5 or sixth light L6 and including a first substrate 22, a second substrate 21 opposite to the first substrate 22 and liquid crystal 26 interposed between the first and second substrates.

However, Maeda does not disclose that the polarizing layer and the light diffusing layer are integrally formed as recited in claims 1 and 4.

As shown in Fig. 2, Epstein discloses a polarizing member 2 (optical element) including a polarizing layer 12 and a light diffusing layer 28 integrally formed with the polarizer 12 (col. 4, lines 33-64).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the liquid crystal display device of Maeda with the teaching of Epstein by employing a polarizing member including a polarizing layer and a light diffusing layer integrally formed with the polarizer in order to realize excellent forward scattering properties and exhibit low backscatter (col. 1, lines 9-14).

Re claim 2, as shown in Fig. 7 (annotated) of Iijima, the light-diffusing layer 30 (light diffusing plate) is positioned in opposition to the light generating section 70 so as to generate second light L2 by diffusing first light L1; and the polarizing layer 15 (lower polarizing plate) is disposed on the light-diffusing layer so as to generate third light L3 by polarizing second light L2.

Re claim 3, as shown in Fig. 5 of Iijima, the polarizing layer 15 is positioned in opposition to the light generating section 70 so as to generate second light L2 by polarizing first light L1; and the light-diffusing layer 30 is disposed on the polarizing layer 15 so as to generate third light L3 by diffusing second light L2.

Re claim 5, as shown in Fig. 7 of Iijima, the light-diffusing layer 30 is positioned in opposition to the semi-transmissive film 40 so as to generate third light L3 by diffusing first light L1 and to generate fourth light L4 by diffusing second light L2; and the

polarizing layer 15 is disposed on the light-diffusing 30 so as to generate fifth light L5 by polarizing third light L3 and to generate sixth light L6 by polarizing fourth light L4.

Re claim 6, the light-diffusing layer 30 of Iijima has a haze value above 20% (col. 9, lines 28-50 and col. 12, lines 26-31).

Re claim 9, as shown in Fig. 5 of Iijima, the polarizing layer 15 is positioned in opposition to the semi-transmissive film 40 so as to generate third light L3 by polarizing first light L1 and to generate fourth light L4 by polarizing second light L2; and the light-diffusing layer 30 disposed on the polarizing layer 15 in opposition to the first substrate 22 so as to generate fifth light L5 by diffusing third light L3 and to generate sixth light L6 by diffusing fourth light L4.

Re claim 10, as shown in Fig. 5 of Iijima, the second substrate 21 comprises a color filter 27 and a first electrode 24 and the first substrate 22 comprises a switching device and a second electrode 25 opposite to the first electrode 24 (col. 12, lines 1-15).

5. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iijima (US 6,906,767 B1) in view of Epstein et al. (Epstein, US 6,801,276 B1) as applied to claims 1-6, 9 and 10 above, and further in view of Kawamoto et al. (Kawamoto, US 6,809,782 B1).

Iijima in view of Epstein discloses a liquid crystal display device that is basically the same as that recited in claims 7 and 8 except the light-diffusing layer comprising coating material coated on one surface of the polarizing layer and scattering material mixed with coating material.

As shown in Fig. 1, Kawamoto discloses a polarizing member comprising a polarizing layer 12 and a light-diffusing layer 11 coated on one surface of the polarizing layer 12, wherein the light-diffusing layer 11 comprising coating material and scattering material mixed with coating material and wherein the coating material comprises acryl-based resin and scattering material includes silica particles (col. 2, line 66 through col. 3, line 37 and col. 4, lines 25-49).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the liquid crystal display device of Iijima with the teaching of Kawamoto by forming a light-diffusing layer comprising coating material coated on one surface of the polarizing layer and scattering material mixed with coating material in order to inhibit coloration in viewing from a slantwise direction and attain bright displays (col. 1, lines 6-10).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms, can be reached at (571) 272-1787.

Thoi V. Duong – Primary Examiner

August 07, 2007

A handwritten signature in black ink, appearing to read 'Thoi V. Duong', is written over the date.

FIG. 2

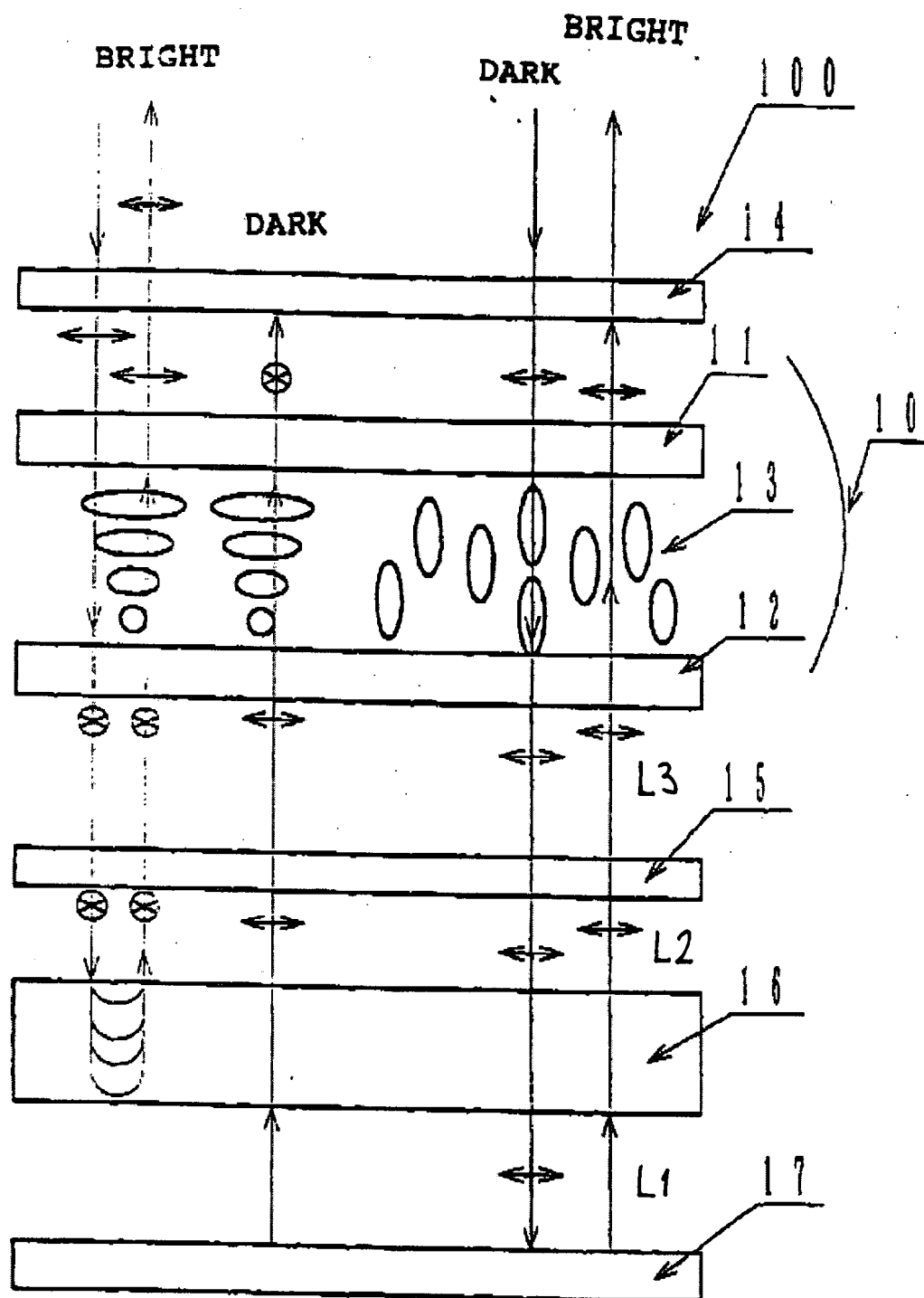


FIG. 23

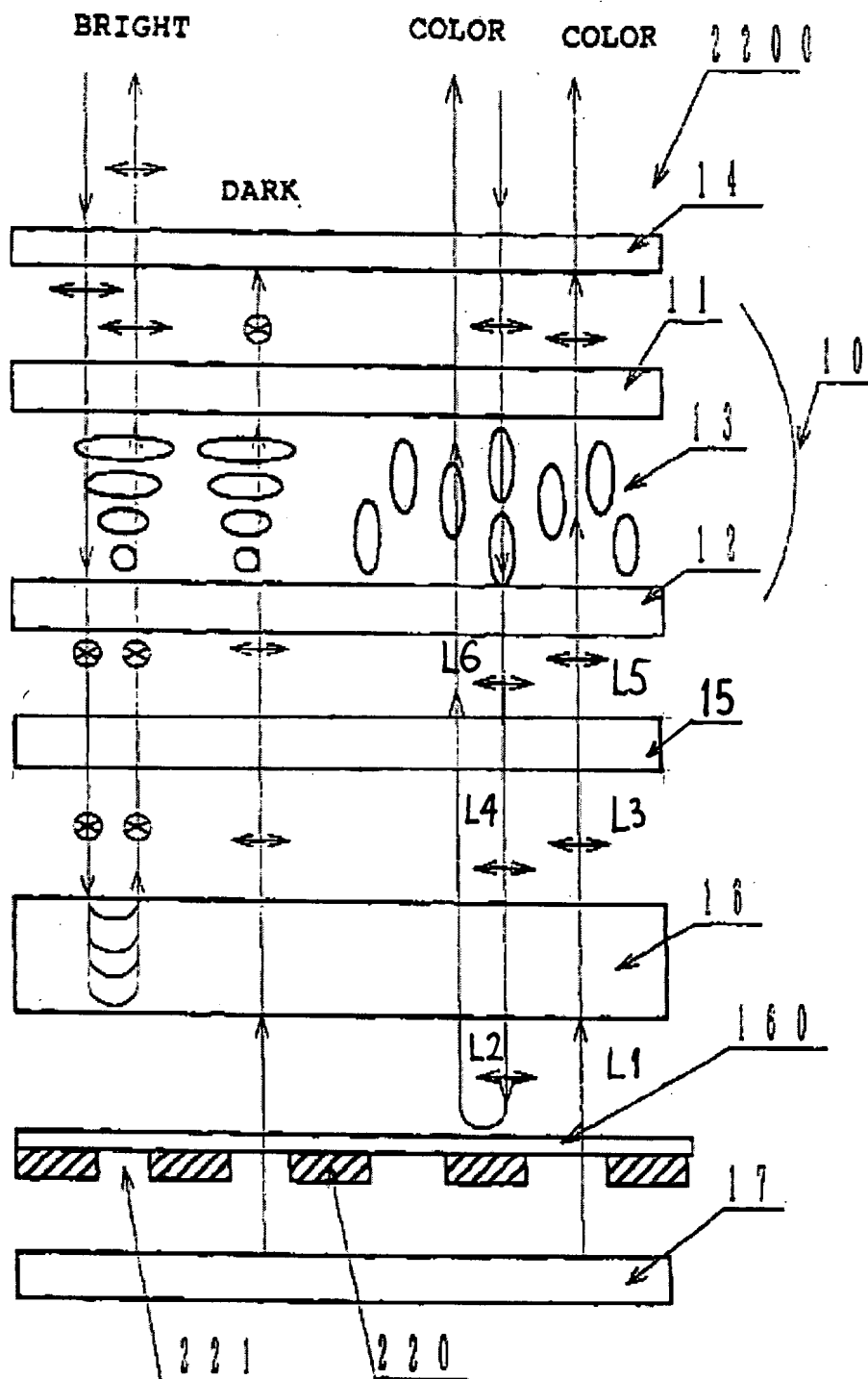


FIG. 5

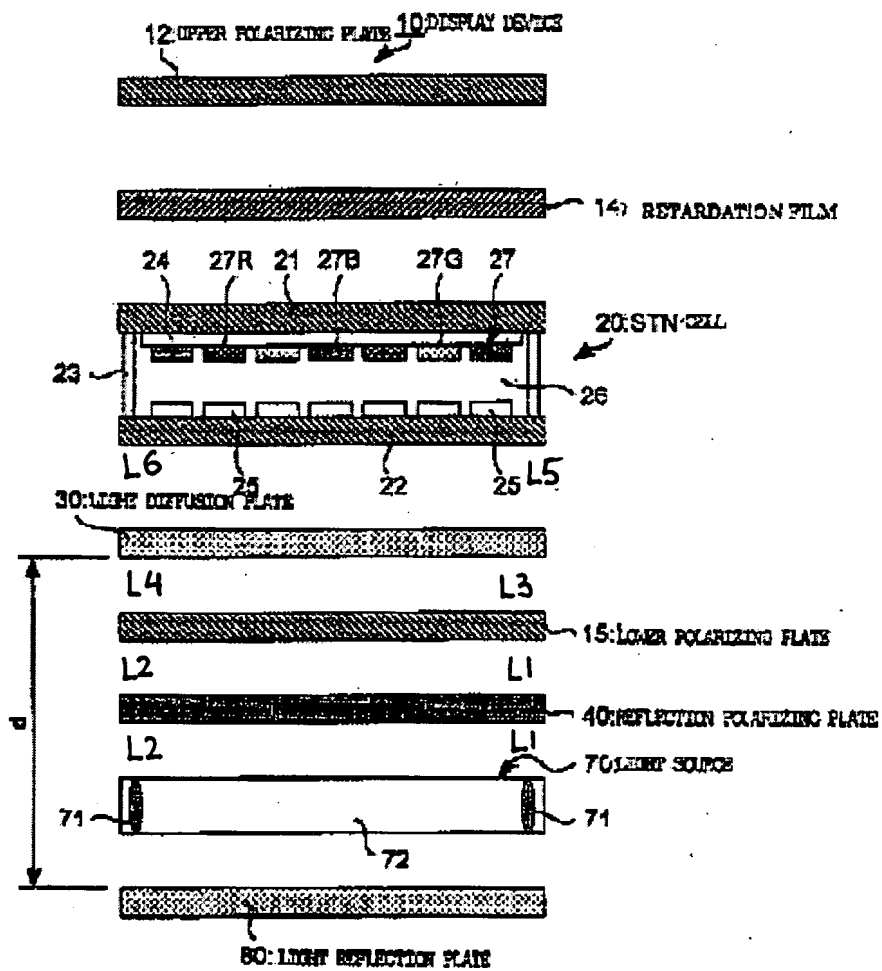


FIG. 7

